

In some remote areas, where there is insufficient traffic for a valid speed sample, traffic engineers may have to base their decision on multiple driving runs of the speed study area.

In the final analysis, it is the judgment of the traffic engineer that determines which, if any, of the factors in the speed study warrant a downward adjustment of the 85th percentile speeds.

After all variables are considered and a speed limit is established, traffic should flow at a safe and efficient level.

#### **WHAT REALISTIC SPEED LIMITS DO:**

Realistic speed limits are of public importance for a variety of reasons:

1. They invite public compliance by conforming to the behavior of the majority.
2. They give a clear reminder of reasonable and prudent speeds to non-conforming violators.
3. They offer an effective enforcement tool to the police.
4. They tend to minimize the public antagonism toward police enforcement which results from obvious unreasonable regulations.
5. They encourage drivers to travel at the speed where the risk of accident involvement is the lowest.

#### **WHAT UNREALISTIC SPEED LIMITS DO:**

Unrealistic speed limits are also of public importance for the following reasons:

1. They do not invite voluntary

compliance, since they do not reflect the behavior of the majority.

2. They make the behavior of the majority unlawful.
3. They maximize public antagonism toward the police, since the police are enforcing a "speed trap."
4. They create a bad image for a community in the eyes of tourists.
5. They increase the potential for accidents along a roadway.

#### **WHAT ARE THE TYPES OF SPEED LIMITS?**

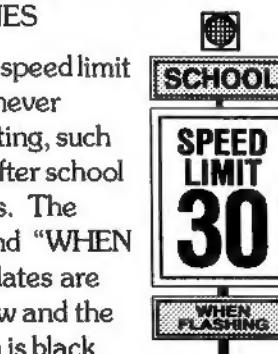


#### **REGULATORY SPEED LIMIT SIGN**

This black and white sign shows the maximum speed that a motorist may travel under ideal conditions.

#### **WHAT ARE SPECIAL TYPES OF SPEED ZONES?**

##### **SCHOOL SPEED LIMITS IN SCHOOL ZONES**



This regulatory speed limit is in effect whenever a flasher is operating, such as before and after school or during recess. The "SCHOOL" and "WHEN FLASHING" plates are black and yellow and the speed limit sign is black and white.

#### **ADVISORY SPEED PLATE**

This black and yellow speed plate is used to advise motorists of a comfortable speed to navigate certain situations. It is used with a warning sign. For instance, when traveling on a winding road, the curve warning sign would be used with an advisory speed plate. The advisory speed plate is used to keep from surprising the driver.

#### **SPEED LIMITS IN WORK ZONES**

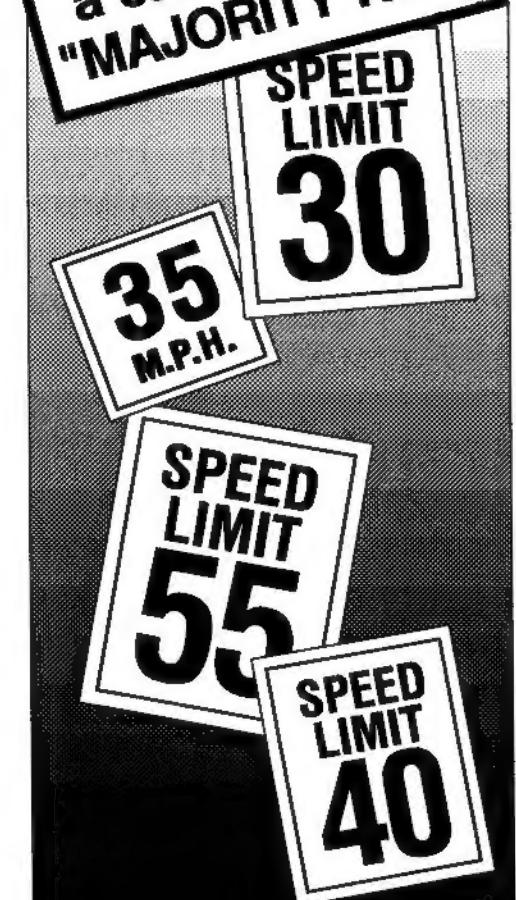
Advisory speed limits are used to identify safe speeds for specific conditions within a work zone. These black and orange signs are always used with warning signs.



Work zone speed limits are short term regulatory speed limits that are established for driver and worker safety.

# **ESTABLISHING SPEED LIMITS**

## **a case of "MAJORITY RULE"**



Speed zoning is the establishment of reasonable and safe speed limits based on an engineering study. This summary tells what realistic speed limits will do, what they won't do, and how they are established.

## WHY SPEED LIMITS?

Most citizens can be relied upon to conduct their daily activities in a reasonable manner. Many of our laws reflect the behavior of reasonable people under normal circumstances.

Generally speaking, traffic laws that reflect the behavior of the majority of motorists are found to be successful, while laws that arbitrarily restrict the majority of motorists encourage violations, lack public support, and usually fail to bring about desirable changes in driving behavior. This is especially true of speed zoning.

Speed zoning is based upon several fundamental concepts deeply rooted in our American system of government and law:

- A. Driving behavior is an extension of social attitude, and the majority of drivers respond in a safe and reasonable manner as demonstrated by their consistently favorable driving records.
- B. The normally careful and competent actions of a reasonable person should be considered legal.
- C. Laws are established for the protection of the public and the regulation of unreasonable behavior on the part of individuals.
- D. Laws cannot be effectively enforced

without the consent and voluntary compliance of the public majority.

## COMMON MISCONCEPTIONS

The public normally accepts the concepts noted in the previous section. However, the same public when emotionally aroused in a specific instance, will often reject these fundamentals and rely instead on more comfortable and widely held misconceptions, such as:

- A. Reducing the speed limit will slow the speed of traffic.
- B. Reducing speed limits will decrease the number of accidents and increase safety.
- C. Raising the posted speed limit will cause an increase in the speed of traffic.
- D. Any posted speed limit must be safer than an unposted speed limit, regardless of the traffic and roadway conditions prevailing.
- E. Drivers will always go 5 m.p.h. over the posted speed limit.

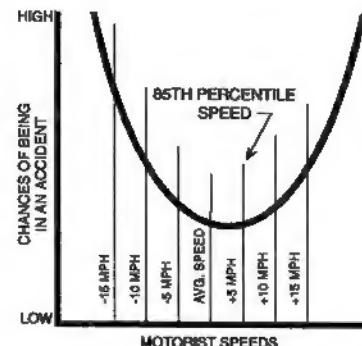
Contrary to popular belief, speed in itself is not a major cause of accidents. In fact, accidents appear to depend less on absolute speed and more on the variation of speeds in the traffic stream

## INTENT OF SPEED ZONING

The basic intent of speed zoning is to identify a safe and reasonable limit for a given road section. The most widely accepted method is to set the limit at the speed which 85 percent of the

traffic is moving at or below. This reflects the safe speed as determined by a large majority of the driver

**Research has shown that the 85th percentile speed is the speed where accident involvement is the lowest.**



**Reducing the speed limit below that which is warranted can actually be detrimental to safety.**

## HOW SPEED LIMITS ARE ESTABLISHED:

Missouri statutes chapter 304 RSMo, allows the establishment of speed limits on the State Highway System "upon the basis of an engineering and traffic investigation."

Speed zoning in Missouri is based on the widely accepted principle of setting speed limits as near as practicable to the speed at or below which 85 percent of the drivers are traveling. According to a Federal Highway Administration study, all states and most local agencies use the 85th percentile speed of free flowing traffic as the basic factor in establishing speed limits.

This speed is subject to revision based upon such factors as: accident experi-

ence, roadway geometrics, parking, pedestrians, curves, adjacent property development, and engineering judgment. This practice is in accordance with the Manual on Uniform Traffic Control Devices which has been adopted by the State of Missouri.

## HOW SPEED DATA IS COLLECTED

Radar is the most common method used to collect speed data from random vehicles on a given roadway at several locations. Off peak hours are normally used in conducting a spot speed study with the speed of approximately 100 free flowing vehicles in each direction obtained. On low volume roads where it would be difficult to obtain a sample of 200 vehicles, the study may be terminated after a study period of one hour. Vehicles are selected at random from the free flow of the traffic stream to avoid bias in the results. These provide the basis for what the drivers perceive as a safe traveling speed.

## ENGINEERING JUDGEMENT:

Probably one of the most important factors in a speed study, but the one most difficult to define, is engineering judgment. No matter how complete policies and guidelines are, there will always be speed studies with peculiarities requiring engineering judgment.

Sometimes, the decision to raise or lower a speed limit in a certain area may have to be based on the traffic investigator's judgment of the drivers expectancy of similar roads in the area.